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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,048	07/31/2003	Suranjan Panigrahi	43062.0217	9979
7590	02/23/2004		EXAMINER	
SNELL & WILMER LLP One Arizona Center 400 East Van Buren Phoenix, AZ 85004-2202			LEE, DIANE I	
			ART UNIT	PAPER NUMBER
			2876	

DATE MAILED: 02/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	10/632,048		PANIGRAHI ET AL.	
	Examiner		Art Unit	
	D. I. Lee		2876	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/31/03 (Preliminary Amdt.).
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 32 is/are rejected.
- 7) ☒ Claim(s) 27 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>7/31/03</u> . | 6) <input type="checkbox"/> Other: _____. |

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DETAILED ACTION

1. Receipt is acknowledged of the Preliminary Amendment filed 31 July 2003. Claims 1-18 and 33-40 have been canceled; no claims have been amended; and no claims have been newly added. Currently, claims 19-32 are pending in this application.
2. Acknowledgment is made that this application is a division of Application Serial No. 09/758,392 filed 12 January 2001, which issued as U.S. Pat. No. 6,624,888.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. **Claims 19-23, 25-26, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wright et al. [US 5,991,025-referred as Wright, cited by the applicant] in view of Gerrish [US 5,327,708-cited by the applicant] and Howorth et al. [US 6,144,444-referred as Howorth, cited by the applicant].**

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Re claims 19, 23-23, 26, and 32: Wright teaches a device for determining a constituent content of an agricultural product having a sample preparation mechanism 12, 14, 64-72 for attachment to a harvester/defoliator 10, 60 and for used with a received agricultural product during harvesting to create an exposed sample of the agricultural product 51, 62, 68 (see figures 1-3, 6-9);

an illumination chamber 44, 88 for radiating the exposed sample of the agricultural product (see figures 4-5, 9-11);

a sensor head 46, 90 for receiving radiation from the exposed sample of the agricultural product (see figures 4-5 and 9-11);

a monochromator 32, 84, which serves as a spectrometer coupled to the sensor, for converting the radiation into a corresponding spectral signal (see figures 4-5 and 9-11), and wherein the monochromator having a photodiode 40, 54 for receiving the reflected light, converting the radiation into a corresponding spectral signal to be processed by the processor 56, which obviously includes the process of digitizing the spectral signal to produce a plurality of data points having a values related to the content of the agricultural product;

a computer 56, coupled to the spectrometer, for receiving the spectral signal and for processing the spectral signal (i.e., analyzing the data) to determine an indication of the constituent content of an agricultural product (see col. 6, lines 19+).

Wright does not teach the sugar as a constituent content of an agricultural product.

Gerrish teaches a crop testing and evaluating system and wherein the characteristics of the crop includes a protein content, sugar content, oil content, and color, and etc. (see the abstract).

In view of Gerrish's teaching, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to incorporate the sugar content determining capability in the device of determining a constituent content of an agricultural product. Doing so would have provided a greater measuring capability. Thus, it would have been an obvious expansion as taught by Wright.

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Wright as modified by Gerrish does not teach the specific process of spectral signal data points.

Haworth teaches an apparatus and a method for determining the content of the sample, such as determining the total hemoglobin and/or parameters in the blood, having a specific spectral signal data processing as claimed by the applicant (see the abstract, col. 7, line 55-col. 8, lines 49).

It would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to incorporate the specific spectral signal data processing in the analyzing process of Wright as modified by Gerrish in order to regulate the use of the measuring device.

Re claims 20 and 25: Haworth teaches two point calibration having a light reference and a dark reference and wherein the light reference is a measured value of the intensity of the light source, i.e., an original value. Although he does not specifically teaches the derived reference value, it would have been obvious to an artisan of ordinary skill in the art at the time the invention was made to incorporate the derived reference value since the measuring device includes a known light source type and its spectrum intensity. Accordingly, such modification would have eliminated the measuring process of the light source and therefore, the processing time of the analyzing the sample content would be greatly reduced.

Allowable Subject Matter

6. Claims 24 and 27-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the best prior art of the record, Wright, Gerrish, and Haworth, alone or in combination, fail to teach or fairly suggest the specific steps of associating the plurality of geographical location coordinates with the plurality of agricultural product to predict sugar contents of the agricultural product, and using an average

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magnitude value of a range of magnitude values within a pair of wavelengths centered around a reference wavelength, as set forth in the claims.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wright et al. [US 6,483,583] and Mayer [US 6,100,526] discloses an apparatus for measuring and/or determining a constituent content of an agricultural product.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to D. I. Lee whose telephone number is (571) 272-2399. The examiner can normally be reached on Monday through Thursday from 5:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee can be reached on (571) 272-2398. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D. I. Lee
Primary Examiner
Art Unit 2876

D. L.